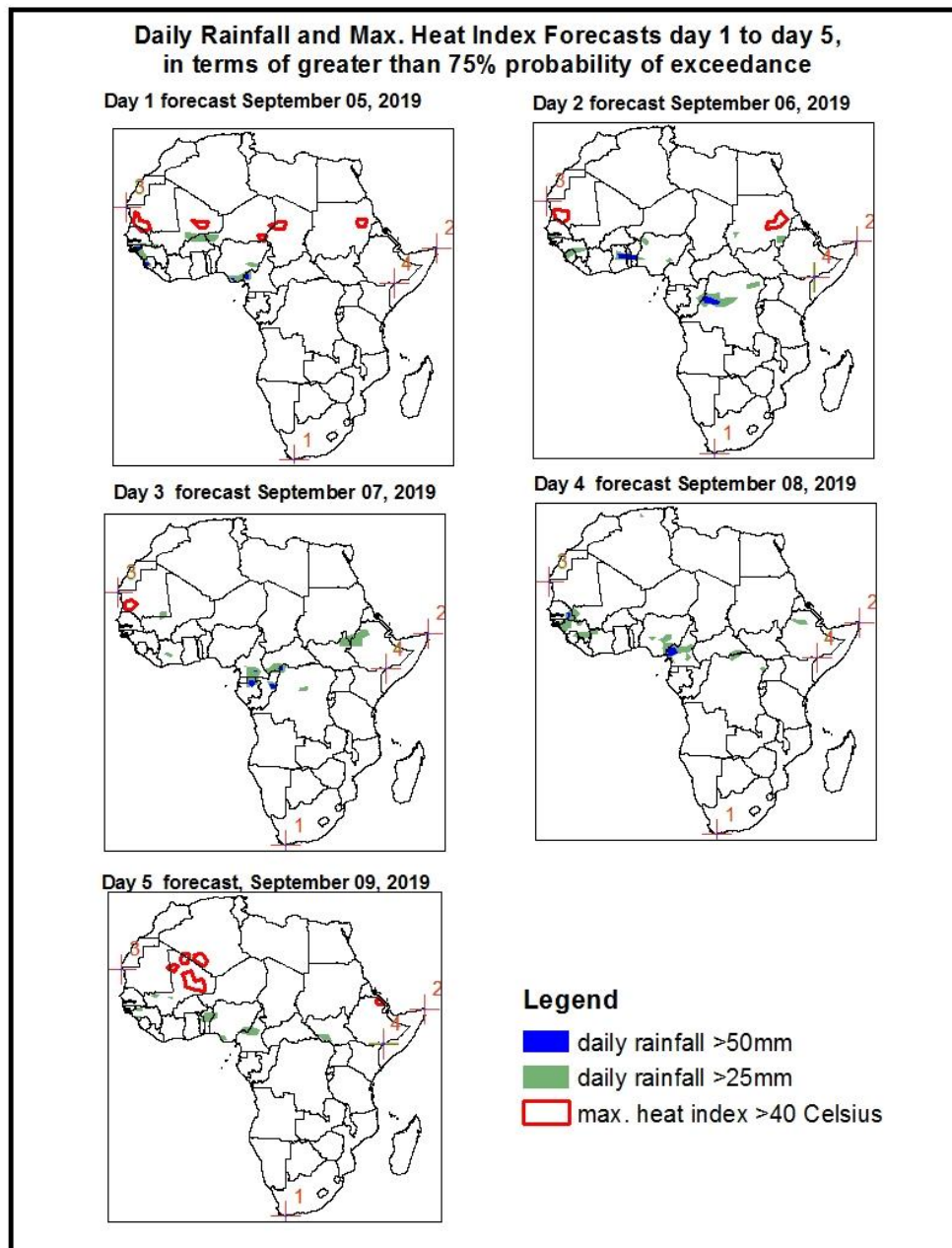


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

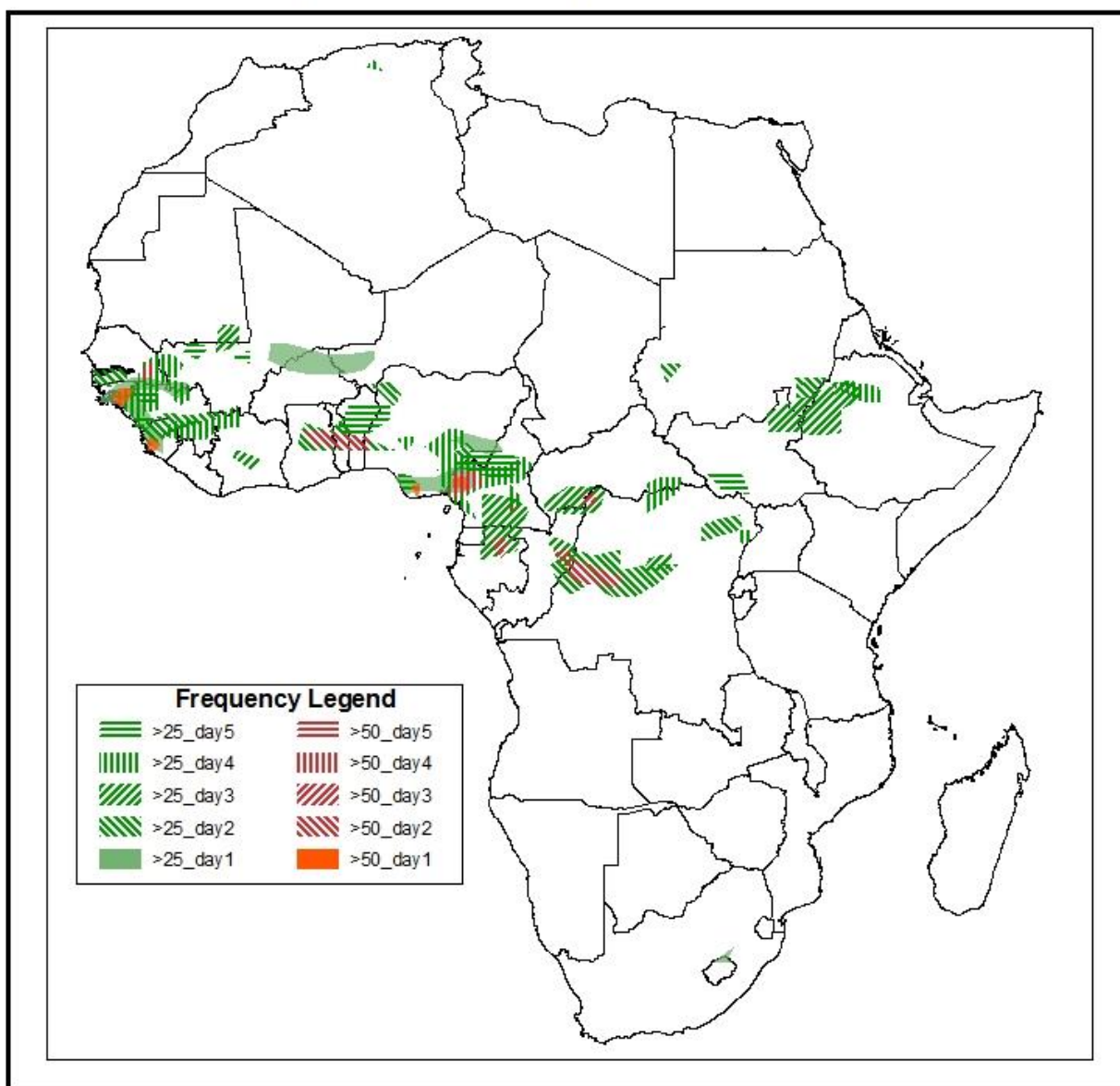
1. Rainfall, Heat Index and Dust Concentration Forecasts, (Issued on September 05, 2019)

1.1. Daily Rainfall and Maximum Heat Index Forecasts (valid: 06 – 10 September, 2019)

The forecasts are expressed in terms of high probability of precipitation (POP), valid 06Z to 06Z, and exceedance probability of maximum heat index ($>40^{\circ}\text{C}$), based on the NCEP/GFS and the NCEP Global Ensemble Forecasts System (GEFS) and expert assessment.



Five Days Rainfall Forecast Summary September 06 - September 09, 2019

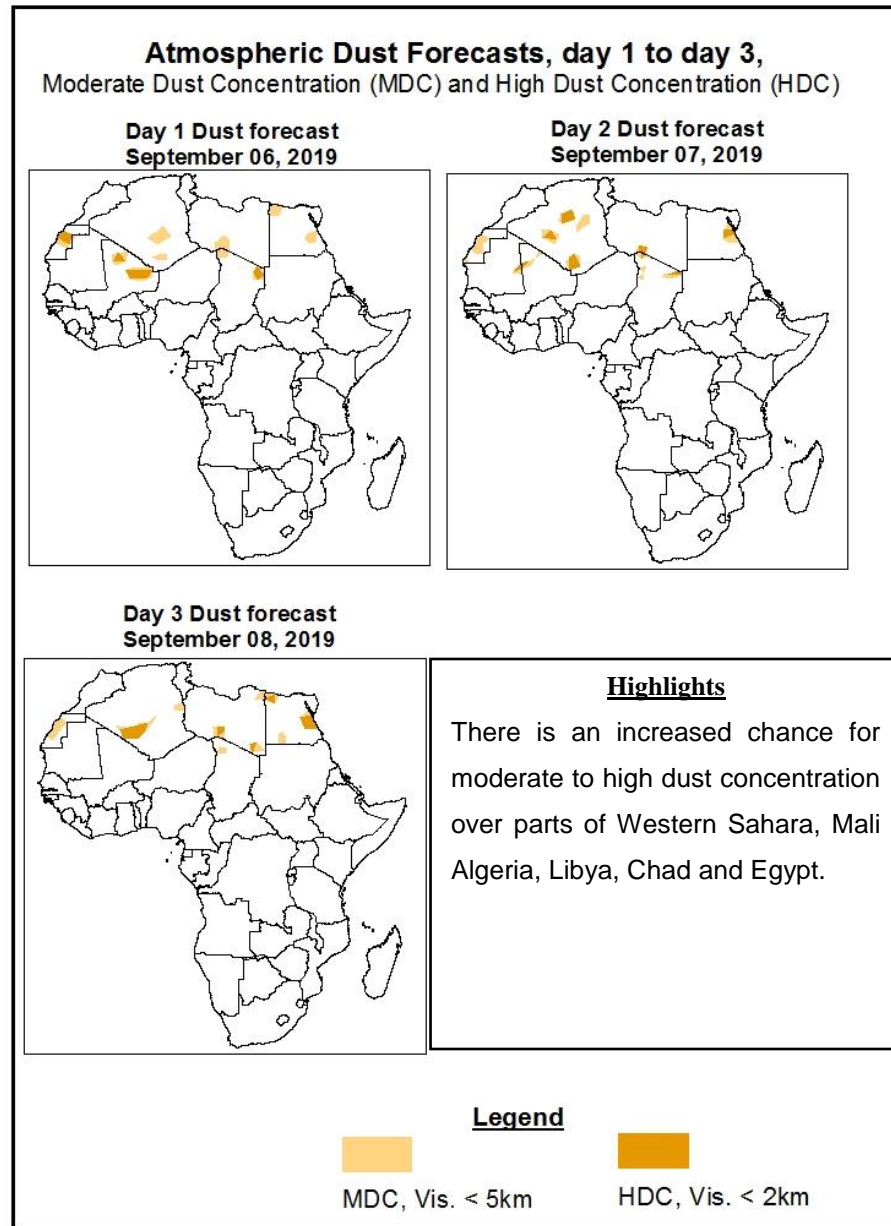


Highlights

- The monsoon flow from the Atlantic Ocean with its associated lower-level convergence, and westward propagating meso-scale convective systems are expected to enhance rainfall over Western Africa, portions of the Sahel, Central Africa countries.
- Lower-level wind convergences are expected to enhance rainfall across portions of the Greater Horn of Africa.
- At least 25mm for two or more days is likely over portions of West, Central Africa and portions of the Greater Horn of Africa. There is an increased chance for daily rainfall to exceed 50mm over western Senegal, Gambia, western Guinea-Bissau, Southwestern Sierra-Leone, central of Ghana, Togo, Benin, Southern Nigeria, southeastern Cameroon, northern Gabon, eastern Republic of Congo and northeastern DRC.
- There is an increased chance for daily maximum heat index to exceed 40°C over Western Sahara, Mali, Mauritania, Mali, Algeria, Chad and Soudan.

1.2. Atmospheric Dust Concentration Forecasts (valid: 06 Sept – 08 Sept 2019)

The forecasts are expressed in terms of high probability of dust concentration, based on the Navy Aerosol Analysis and Prediction System, NCEP/GFS lower-level wind forecasts and expert assessment.



1.3. Model Discussion, Valid: 06 September – 10 September 2019

The Azores High Pressure system over the Northeast Atlantic is expected to Weaken with its central pressure value decreasing from 1037hPa to 1027hPa during the forecast period.

The St. Helena High Pressure system over Southeast Atlantic Ocean is expected to strengthen with its central pressure value decreasing from 1029hPa to 1031hPa during the forecast period.

The Mascarene High Pressure system over Southwest Indian Ocean is expected to strengthen with its central pressure value increasing from 1034hPa to 1041hPa during the forecast period.

Thermal low across the Sahel region is expected to fill up with its central pressure value increasing from 1008 to 1011hPa during of forecast period.

At 925-hPa level, Northeasterly winds is expected to prevail in the Northern Africa, moist southwesterly flow from the Atlantic Ocean is expected to prevail across the Gulf of Guinea and covering much of West Africa and the Sahel regions, the neighboring areas of Central Africa and southeastern the Greater Horn of Africa.

At 850-hPa, lower-level wind convergences are expected to remain active over portions of the Sahel and Lake Victoria regions. A cyclonic circulation southern western Africa is expected to shift westward during the forecast period.

At 700-hPa, a broad area of anticyclonic flow is expected to prevail and intensify across much of Northwest and West Africa during the forecast period.

At 500-hpa, wind speed associated with easterly flow is expected to exceed 30kts across the Sahel, northern Africa, and over many parts southern Sahel during the forecast period.

The monsoon flow from the Atlantic Ocean with its associated lower-level convergence, and westward propagating meso-scale convective systems are expected to enhance rainfall over Western Africa, portions of the Sahel, Central Africa countries. Lower-level wind convergences are expected to enhance rainfall across portions of the Greater Horn of Africa. At least 25mm for two or more days is likely over portions of West, Central Africa and portions of the Greater Horn of Africa. There is an increased chance for daily rainfall to exceed 50mm over western Senegal, Gambia, western Guinea-Bissau, Southwestern Sierra-Leone, central of Ghana, Togo, Benin, Southern Nigeria, southeastern Cameroon, northern Gabon, eastern Republic of Congo and northeastern DRC. There is an increased chance for daily maximum heat index to exceed 40oC over Western Sahara, Mali, Mauritania, Mali, Algeria, Chad and Soudan.

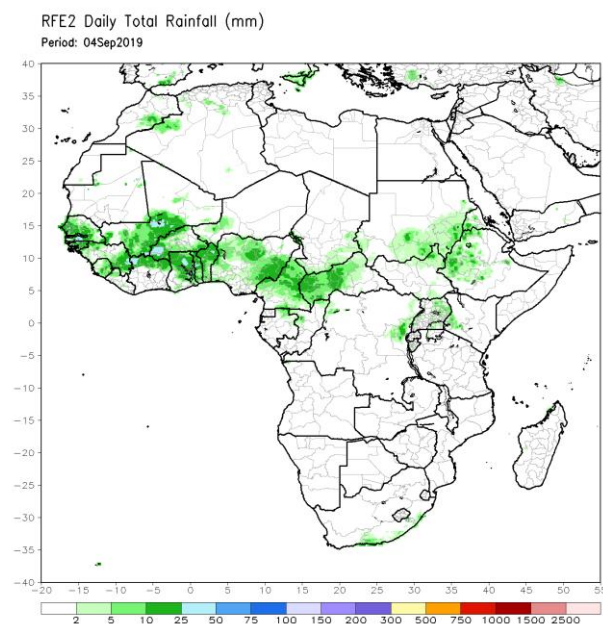
2.0. Previous and Current Day Weather over Africa

2.1. *Weather assessment for the previous day* (Sept 04, 2019)

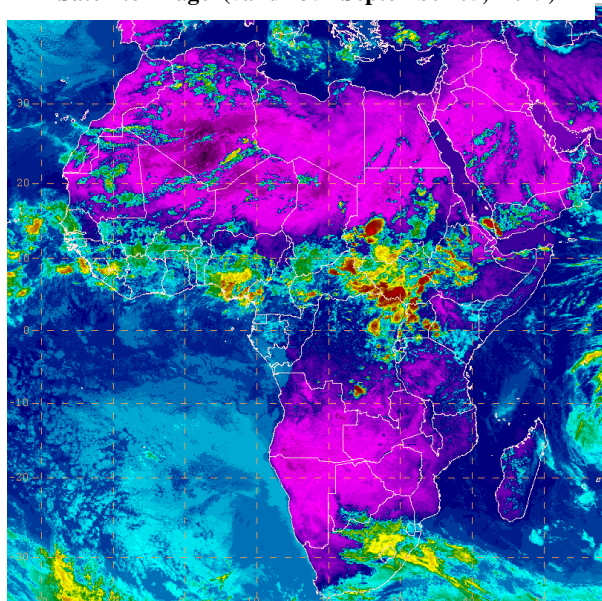
Daily rainfall amount exceeded 25mm over central of Mali, southern Senegal, southeastern Guinea, northwestern Cote d'Ivoire, western Burkina Faso, northern Ghana, central of Togo and exceeded 50mm over portions of Mali, Burkina Faso, Guinea, Ghana and Cote d'Ivoire.

2.2. *Weather assessment for the current day* (Sept 05, 2019)

Deep convective clouds are observed over Central Africa countries and local areas in the Greater Horn of Africa.



IR Satellite Image (valid 1352 September 05, 2019)



Author: Ahmadou Aliou DIALLO (CPC-African Desk/ Guinea Meteorological Service /DNM)